RFMD and Intel announce wireless compatibility

RFMD's Polaris Total Radio solution, a highly integrated quad-band transceiver and power amplifier module, can be combined with Intel's new PXA800F cellular processor for a total system solution for GSM/GPRS handsets.

By achieving compatibility of the Polaris solution with the Intel PXA800F cellular processor, RFMD and Intel will be able to provide handset developers with a complete, highly integrated GSM/GPRS Class 12 solution that minimises external components and power consumption while maximising performance.

RFMD's Polaris Total Radio solution is for GSM, GPRS and E-GPRS applications, performing all major functions of the RF section, including both transmit and receive. It offers reduced component count, flexible baseband interfaces and lower implementation costs.

The Intel PXA800F cellular processor is a full GSM/GPRS Class 12 solution that supports MP3 and MPEG-4 decode, colour screens and digital cameras. The Intel PXA800F cellular processor is built on the Intel Personal Internet Client Architecture (Intel PCA), a development blueprint that entails independent hardware and software development cycles for computing and communications subsystems to allow wireless applications to be brought to market more quickly.

"We've worked closely with Intel to integrate our respective wireless products, and we're pleased to participate with them on this advanced total system solution for GSM/GPRS handsets," said Bob Bruggeworth, president and CEO of RF Micro Devices. "We share a strong focus for ease of implementation and low power consumption, and we believe the combination of our products offers a very compelling solution to handset manufacturers."

Intel's Hans Geyer, VP and GM for the PCA components group said "Our devices significantly enhance the mobile phone experience - making the possibility of smarter handsets with longer battery life even more of a reality."

Agilent invests in MEMS

Agilent Technologies' Agilent Ventures (AV) fund has participated in a Series B Preferred Stock funding round for MEMX, a designer of MEMS-based solutions for the communications and medical industries. The effort raised more than $8m in equity.

MEMX, founded in 2000, is a spin-off applying Sandia National Laboratories' SUMMiT V MEMS (micro electro-mechanical system) technology. In 2001, it appointed Mike Hodges as President and CEO. Hodges, a seasoned veteran of telecom startups, had an extensive track record in the formation and growth of successful optical companies. He has served as CEO during the formative stages, of companies such as Onetta, Tellium, the currently beleaguered Bandwidth9 and Biometric Imaging.

Insulator boosts chip speed

A new type of insulating material for multilayer wiring that can raise the speed of system chips by up to 25% has been developed jointly by researchers at Tri Chemical Laboratories Inc, a Yamanashi Prefecture chip-material manufacturer, and Hiroshi Nakayama, professor at Osaka City University. The aim is to commercialise the material within three years. Negotiations are underway with a coating device maker for joint development. The material - interlayer insulating film for filling spaces between layers of wiring - is made of a silicon and carbon alloy. The dielectric constant of the new film is 3.01, compared with 3.9 for conventional silicon dioxide film, meaning that the new film makes it easier for an electric signal to travel through wiring.

To make the film, the team used the catalytic CVD method, which is used to develop amorphous silicon solar cells. Previously, insulating film was laminated using the plasma CVD method, under which the temperature of the substrate rises as high as 800°C (1,472°F), resulting in damaged substrates. Under catalytic CVD, the substrate temperature remains at 400°C, reducing the possibility of damage. Laminating speed is 0.4 micron per minute, 10 times faster than conventional. Catalytic CVD devices do not require high-frequency voltage and use a simple structure, enabling devices to be sold at half plasma CVD device price. Researchers are now working on insulating film with an even lower dielectric constant.

Manitoba ships out

Intel has begun shipping its new wireless chip 'Manitoba'. In comparison to the Pentium 4 chip with 54m transistors, Manitoba has 80m. It has been in development for 18-24 months, with input from the 500-engineer wireless technology group in Folsom, collaborating with Intel teams at six other US sites and four overseas. Enabling streaming video over a cell phone, it is Intel's white hope for capturing the core of the growing wireless market; it is expected to be in cell phones as early as the third quarter. With sales in core market computer processing chips slowing down, Intel is going all out for the wireless sector. Motorola and Texas Instruments also have multiple-function chips, so battle markers are drawn to see which chip gets to be top with cell phones. TI with some two-thirds of the global market share for mobile phone processors, appears strongest, but competition is expected to drive down prices among the competing chipmakers, and the biggest cell phone makers, Nokia, Ericsson and Motorola.